

REMARKS

Claims 1-22 are pending. By this Amendment, claims 1-4, 6-14, 16 and 18 are amended to even more clearly distinguish over the applied references. No new matter is added by the above amendments.

Claims 1, 2, 4, 6-8 and 12-22 stand rejected under 35 U.S.C. §103(a) over U.S. Patent No. 5,539,521 to Otokake et al. in view of U.S. Patent No. 5,976,738 to Nakashima. This rejection is respectfully traversed.

Otokake et al. relates to an apparatus and method that measures the position of a pattern formed on a mask or reticle having that pattern. See, for example, col. 2, lines 45-48, col. 2, lines 62-66, col. 3, lines 60-64, col. 4, lines 7-10 and col. 5, lines 42-43. Otokake et al. does not disclose or suggest detecting deformation information of a substrate on which a pattern is to be formed. Nakashima discloses an exposure apparatus that exposes a pattern of a mask or reticle onto a substrate. The combination of Otokake et al. and Nakashima does not disclose or suggest the combinations of features recited in the independent claims of this application.

With respect to independent claims 1 and 6, while Otokake et al. discloses measuring the position of a pattern already formed on a mask, Otokake et al. does not disclose or suggest detecting deformation information of a mask substrate on which a pattern is to be formed as recited in these independent claims. Thus, the combination of Otokake et al. and Nakashima also does not disclose or suggest the claim 1 method or the claim 6 apparatus that detects deformation information of the mask substrate corresponding to a transfer position where a pattern of an image is to be formed, and that adjusts at least one of a relative positional relationship between the pattern image and the mask substrate and a projection characteristic of the pattern image based on the deformation information. Accordingly, independent

claims 1 and 6, as well as their dependent claims, are patentable over Otokake et al. and Nakashima.

With respect to independent claims 8 and 12, Otokake et al. does not disclose or suggest supporting a substrate on which a pattern image is to be transferred at a plurality of points without chucking, the supported substrate being deformed with respect to at least a predetermined direction, and adjusting at least one of a relative positional relationship between the pattern image and the substrate and a transfer condition of the pattern image based on at least information relating to flexing of the supported substrate corresponding to a transfer position of the pattern image on the substrate. As noted above, Otokake et al. measures the position of a pattern already formed on a mask, and does not consider flexing of a substrate onto which an image is to be transferred. Accordingly, the combination of Otokake et al. and Nakashima does not disclose or suggest these features. Thus, independent claims 8 and 12, as well as their dependent claims, are patentable over Otokake et al. and Nakashima.

With respect to independent claim 13, Otokake et al. does not disclose or suggest a moving unit that supports a substrate onto which a pattern is to be transferred at three support portions, the substrate supported on those portions being deformed with respect to at least a predetermined direction, and correcting a transfer error of the pattern image onto that substrate caused by supporting the substrate on the three support portions. As discussed above, Otokake et al. does not address deformation of a substrate onto which an image pattern is to be transferred. Thus, the combination of Otokake et al. and Nakashima does not disclose or suggest the combination of features recited in independent claims 13, as well as the claims dependent on claim 13.

Withdrawal of the rejection based on Otokake et al. and Nakashima is requested.

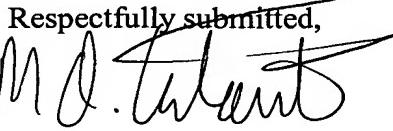
Claims 5, 10 and 11 stand rejected under 35 U.S.C. §103(a) over Otokake et al. in view of Nakashima, and further in view of U.S. Patent No. 6,078,380 to Taniguchi et al. This rejection is respectfully traversed. Taniguchi et al. does not overcome the deficiencies noted above with respect to independent claims 1 and 8. Thus, claims 5, 10 and 11 are patentable for at least the reasons set forth above with respect to their corresponding independent claims 1 and 8. Withdrawal of the rejection is requested.

Claims 1, 3, 6, 8, 9, 12-14 and 16-22 stand rejected under 35 U.S.C. §103(a) over Nakashima in view of U.S. Patent No. 6,262,792 to Higashiki. This rejection is respectfully traversed.

As noted above, Nakashima merely discloses an exposure apparatus and method in which a pattern of an image on a reticle is transferred onto a substrate. Higashiki discloses detecting deformation of a reticle on which a pattern already is formed, and then either adjusting the position of the reticle or the position of a substrate during a process that transfers the image of the pattern on the reticle onto the substrate. See, for example, col. 8, lines 24-33, as well as col. 1, lines 12-14, col. 2, lines 15-18, col. 2, lines 49-51, col. 3, lines 1-4, col. 3, lines 62-67, col. 6, lines 3-20, col. 7, lines 21-34 and col. 8, lines 1-9. Like Otokake et al., Higashiki does not disclose or suggest making any adjustments based upon deformation information or flexing of a substrate onto which an image is to be transferred. Thus, independent claims 1, 6, 8, 12, 13, as well as their dependent claims, are patentable over the combination of Nakashima and Higashiki. Withdrawal of the rejection is requested.

In view of the foregoing, Applicant respectfully submits that this application is in condition for allowance. Favorable reconsideration and prompt allowance are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact Applicant's undersigned attorney at the telephone number listed below.

Respectfully submitted,


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MAC/ccs

Attachment:
Petition for Extension of Time

Date: July 18, 2005

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